5. Write Test Cases (Formal CASE study for IPCF

A. Unit Test Cases (Resume Analysis Module)

Test Case ID	Feature to Test	Test Steps	Input Data	Expected Output	Actual Output	Status
UTC_RES_001	analyzeResume() with valid resume	Call analyzeResume()	Resume with standard format	Extracted keywords and score	Extracted keywords and score	Pass
UTC_RES_002	analyzeResume() with missing sections	Call analyzeResume()	Resume missing experience section	Warning or low score	Warning or low score	Pass
UTC_RES_003	analyzeResume() with empty file	Call analyzeResume()	Empty document	Error message	Error message	Pass

B. Integration Test Cases (Chatbot and Resume Modules)

Test Case ID	Feature to Test	Test Steps	Input Data	Expected Output	Actual Output	Status
ITC_CHAT_RES_001	Resume upload and feedback generation	1. Upload resume 2. Chatbot analyzes and responds	Valid resume file	Feedback with score and suggestions	Feedback with score and suggestions	Pass
ITC_CHAT_RES_002	Chatbot response to invalid resume	1. Upload corrupted file 2. Chatbot processes	Corrupted resume file	Error response	Error response	Pass

C. System Test Cases (End-to-End Flow)

Test Case ID	Feature to Test	Test Steps	Input Data	Expected Output	Actual Output	Status
STC_E2E_001	Full user flow	1. User logs in 2. Uploads resume 3. Interacts with chatbot 4. Receives feedback	Valid credentials, resume file	Feedback generated and displayed	Feedback generated and displayed	Pass
STC_SEC_001	Unauthorized access to resume analysis	1. User not logged in 2. Accesses /analyze	No credentials	Redirect to login or access denied	Redirect to login or access denied	Pass